

Polypodium vulgare on Long Island

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On Sugar Loaf Hill, on the southern coast of eastern Long Island, Suffolk County, New York, is a small colony of *Polypodium vulgare* growing on sand, a most unusual habitat for this species in eastern North America. I was taken to this colony by Mr. George Peter, an amateur naturalist and former Long Island resident, and by Mrs. Grosvenor Atterbury, owner of Sugar Loaf Hill, which is one of the Shinnecock Hills west of Southampton.

The *Polypodium* (Fosberg 50490, US) is found on the eastern slope of the hill, at about 65 m elevation, in a patch of hardwood forest growing on a sandy morainal soil with no rock outcrops or even boulders in the immediate vicinity, although there are glacial boulders not far away. It is in a rather dense but not very tall hardwood forest of *Prunus serotina*, *Robinia pseudo-acacia*, and several oaks, with a thick undergrowth of *Smilax*, *Viburnum*, and other shrubs.

The unusual habitat suggested that it would be worth while to check very carefully to be sure that the plant was not the European *P. vulgare* var. *vulgare* rather than the American var. *virginianum*. I have never seen the latter on any substratum but rock, but I saw var. *vulgare* growing on sand in Europe some years ago. An examination showed no trace of the peculiar glandular paraphyses in the sori that are the characteristic feature of var. *virginianum*. These two varieties seem indistinguishable in any other way. Therefore, the plant of Sugar Loaf Hill seems to be *Polypodium vulgare* var. *vulgare*.

Is this fern indigenous on Long Island? To the best of my knowledge var. *vulgare* is not known to be indigenous elsewhere in the eastern United States, although some California plants seem identical with the European ones.

In the abundant eastern North American material in the U.S. National Herbarium, filed under *P. virginianum* L., there is not a single specimen from a Coastal Plain locality. Of those specimens

bearing habitat data, all grew on rocks, none on sand. Plants from doubtful localities were examined, but all had the characteristic glandular paraphyses of var. *virginianum*.

According to Mrs. Atterbury, Sugar Loaf Hill was rather bare 90 years ago, and this is supported by a photograph in her possession which shows only low vegetation. Whether the slope with the *Polypodium* was bare or wooded is not so clear. There is a considerable wooded area now, and there are some introduced trees in the vicinity, including European oaks and beech. These were brought in by the Atterbury family, and the *Polypodium* might have come with them. On the other hand, there are in the eastern United States a number of species with an amphi-Atlantic distribution, and this could be one of them. It is very difficult to be sure which of these are indigenous and which crossed the Atlantic with the aid of man; it may never be certain in the case of *Polypodium vulgare* var. *vulgare*. The best approach would seem to be to search for other Coastal Plain and morainal stations in order to see which variety is present.

Mrs. Atterbury intends to preserve a small area surrounding the *Polypodium* colony in its natural condition, so that it will be possible to study its behavior in the future and to study more carefully the vegetation in which it occurs. It is hoped that she will provide for its permanent legal preserved status for all time.

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